

## ABSTRACT OF THE DISCLOSURE

A transmitter transmits a quadrature modulated signal including transmission data as an I component and a known PN sequence as a Q component. The signal is received by a receiver which separates the signal into a real part and an imaginary part, and then is supplied to an equalizer and also to an I correlation circuit and a Q correlation circuit. In the meantime, a PN sequence identical with the PN sequence of the transmitter is generated by a generator, and then supplied to the I correlation circuit and the Q correlation circuit. The I correlation circuit and the Q correlation circuit determine a ratio and a time difference between a leakage component of the Q component leaking to an I channel and the Q component formed by a direct wave, and a ratio and a time difference between the Q component formed by an indirect wave and the Q component formed by the direct wave in a Q channel, respectively, on the basis of the real part, the imaginary part, and the PN sequence supplied to the I correlation circuit and the Q correlation circuit. The equalizer adaptively equalizes by the data obtained by the I correlation circuit and the Q correlation circuit.

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